

Application Number 10/617,627
Response to Office Action mailed July 26, 2007

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Previously presented): A method comprising steps of:

calculating a transformed error detection code syndrome from data having an error detection code appended to user data, wherein the transformed error detection code syndrome is calculated using a second polynomial;

calculating a recomputed transformed error detection code syndrome, wherein the recomputed transformed error detection code syndrome is calculated using a first polynomial and a correction pattern for the data;

comparing the recomputed transformed error detection code syndrome to the transformed error detection code syndrome; and

if the recomputed transformed error detection code syndrome corresponds to the transformed error detection code syndrome, transferring the data.

Claim 2 (Original): The method of claim 1 further comprising steps of:

if the recomputed transformed error detection code syndrome does not correspond to the transformed error detection code syndrome, receiving the data again.

Claim 3 (Original): The method of claim 1, wherein the transformed error detection code syndrome recomputation step comprises steps of:

computing a correction pattern using a Chien search in conjunction with Forney's algorithm.

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Claim 4 (Original): The method of claim 1, wherein the transformed error detection code syndrome calculating step comprises steps of:

- generating an error detection code multiplier;
- generating a non-transformed error detection code syndrome; and
- multiplying the error detection code multiplier by the non-transformed error detection code syndrome.

Claim 5 (Previously presented): The method of claim 1 wherein the step of calculating a recomputed transformed error detection code syndrome is performed only if the transformed EDC syndrome is nonzero.

Claim 6 (Previously presented): The method of claim 5 wherein if the transformed EDC syndrome is zero, then the transmitted data is transmitted to the host.

Claim 7 (Previously presented): A method of detecting an error in error correction code (ECC) interleave encoded data comprising steps of:

- receiving ECC interleave encoded data, the ECC interleave encoded data comprising user data and an error detection code (EDC);
- calculating a transformed error detection code syndrome using the ECC interleave encoded data and a second polynomial;
- generating a recomputed transformed error detection syndrome using a first polynomial and a computed correction pattern ~~in~~for the ECC interleave encoded data; and
- comparing the transformed EDC syndrome with the recomputed transformed error detection syndrome.

Claim 8 (Previously presented): The method of claim 7 further comprising a step of:

- locating errors either in the received data using an error locator; and
- correcting errors in the received data using an error evaluator.

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Claim 9 (Previously presented): The method of claim 8 wherein the locating step comprises performing a Chien search using the received data and the evaluating step comprises performing Forney's algorithm.

Claim 10 (Previously presented): The method of claim 7, wherein the transforming step comprises:

- generating a non-transformed EDC syndrome;
- computing an EDC multiplier; and
- multiplying the non-transformed EDC syndrome by the EDC multiplier to generate the transformed EDC syndrome.

Claim 11 (Previously presented): The method of claim 10, wherein the step of generating a non-transformed EDC syndrome generator comprises:

- receiving the data;
- providing clocked flip-flops;
- multiplying an output of the flip-flops with a value associated with the error detection code in the received data; and
- logically adding the multiplied output to the received data.

Claim 12 (Previously presented): The method of claim 7 further comprising steps of:
generating an error correction code (ECC) syndrome from the received data in an ECC syndrome generator.

Claim 13 (Previously presented): The method of claim 12 wherein the ECC syndrome generator is connected to a comparator through an error correction unit.

Claim 14 (Previously presented): The method of claim 13 wherein the error correction unit is connected to the comparator through an EDC syndrome recomparator.

Claims 15 - 16 (Canceled).

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Claim 17 (Previously presented): The method of claim 1, wherein the error detection code includes a first portion with a first symbol size and a second portion with a second symbol size, wherein the second symbol size is different from the first symbol size.

Claim 18 (Previously presented): The method of claim 1, wherein the second polynomial has coefficients of the first polynomial in a reversed order.

Claims 19-22 (Canceled).